[*Interpretation Methods for NMR Diffusion-T2 maps*]

Abstract

A method is disclosed for interpretation of multi-dimensional nuclear magnetic resonance data taken on a sample of an earth formation. Specifically, a set of NMR data is acquired for a fluid sample located either in a borehole or in a laboratory environment. From the set of NMR data, a multi-dimensional distribution is calculated using a mathematical inversion that is independent of prior knowledge of fluid sample properties. The multi-dimensional distribution is graphically displayed on a multi-dimensional map. Each fluid instance or artifact visible on the graph is identified as representing a probable existence of a detected fluid. One or more quantitative formation evaluation answers for one or more fluid instances is computed based on the multi-dimensional distribution associated with the respective fluid instance.